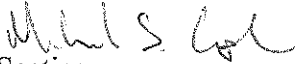# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

MEMORANDUM

SUBJECT: Deviation from QAPP - Relative percent difference calculation of precision between instruments

FROM: Michael Compher, Chief
Air Monitoring and Analysis Section

TO: Union Station Project File

DATE: June 18, 2015

Page 13 of the Chicago, IL, Characterization of PM2.5 Concentrations on Union Station Platforms Quality Assurance Project Plan (QAPP), Version 2.0, incorrectly states that data quality objective should be evaluated by calculating the percent difference. The QAPP should state that we will calculate the *relative* percent difference (RPD), using the formula below:

$$RPD = ((X_1 - X_2)*100) / ((X_1 + X_2)/2)$$

Where: X_1 is the smaller of the two values and X_2 is the larger of the two values.

Relative percent difference is the proper metric to calculate and evaluate precision between two duplicate measurements. Smaller relative percent difference is interpreted as higher precision between measurements.

A handwritten correction to the QAPP will be made to the signed hard copy, and this change will be incorporated in the next QAPP revision. This memo will be electronically distributed to the distribution list on page 5 of the QAPP.